Section 7026
(October 2002)

FIXED WING AIRCRAFT 7026
(October 2002)

FLIGHT TIMES 7026.1
(October 2002)

MAXIMUM FLIGHT HOURS PER DAY 7026.1.1
(October 2002)

A pilot of a single-pilot aircraft is limited to seven hours of flight time in one duty day. Pilots of aircraft with a required co-pilot (Second in Command) are limited to eight hours of flight time in one duty day.

A duty day is any day a flight is made, or any work is performed. Pilots are limited to 7 hours flight time and a mandatory 10-hours of continuous rest away from the airbase.

AIRCRAFT DISPATCH 7026.2
(October 2002)

Initial Attack Aircraft are to be dispatched so as to arrive at a new incident no earlier than:

> 30 minutes prior to sunrise - when an air tactical group supervisor (ATGS) or airtanker or helicopter Coordinator is at the incident.
>
> 30 minutes after sunrise - when not working with an ATGS or air tanker or helicopter coordinator.

Initial Attack Aircraft are to be dispatched so as to arrive at a new incident no later than:

> 30 minutes before sunset when operating without an ATGS or airtanker or helicopter coordinator.
>
> 30 minutes after Sunset - with an ATGS or air tanker or helicopter coordinator at the scene.

Note: Dispatches are defined as the original or "new order/request" response to an incident. Reload and returns do not constitute separate dispatches.

DIVERTS **7026.3**
(October 2002)

GENERAL **7026.3.1**
(October 2002)

In recognition of the initial attack values of aircraft, the policy is to divert aircraft from a going fire to a new fire. IC will be advised before aircraft (that are committed to their fires) have been diverted, and it is most important that all involved understand that a divert has taken place.

Reference: 8342.2.1 CDF Aviation Procedures Handbook

'NO DIVERT' POLICY **7026.3.2**
(October 2002)

When an incident commander recognizes critical problems, (e.g., safety of personnel, structures or high values at risk) and has urgent need for continued air support, the incident commander should immediately contact the ECC and request "NO DIVERT" of a specified number of aircraft. When the critical phase has passed, the incident commander should immediately advise the ECC that the "NO DIVERT" has been rescinded. This procedure should be used for genuine emergencies only. A hot, running fire is not, in itself, enough justification to request "NO DIVERT".

Reference: 8342.2.2 CDF Aviation Procedures Handbook

RELEASE/RE-ORDER **7026.4**
(October 2002)

All airtankers are released daily from assigned incidents. Incident Commanders must place new requests for needed airtankers by 1900 hours for the following day's operations.

Reference: California Interagency Mobilization Guide 28.2.5.

COST **7026.5**
(October 2002)

Due to the high cost of aircraft, Incident Commanders should utilize aircraft only to complete the assignment mission. Air tankers should not be held in orbit and released from "load and hold" assignments when fires are contained. Prudent management of aircraft costs dictates that fixed-wing tactical aircraft should be released when no foreseeable missions are likely within the operational period.

RETARDANT **7026.7**
(October 2002)

GENERAL **7026.7.1**
(October 2002)

Retardant approved for use in California is the gum-thickened type. Gum thickening increases the viscosity allowing retardant to reach the ground in a more uniform pattern and provide a good “shadowing” or total coating of the fuel. Retardant works in two ways. As a wet agent it can extinguish fire much like water does. As a chemical agent, heat changes retardant into a carbon that is non-combustible. This is where the “shadowing” makes it more effective in the total coating of the fuel.

TOXICITY **7026.7.2**
(October 2002)

CDF utilizes retardant that is approved by a United States Forest Service laboratory. Retardant must be non-toxic to humans. There are environmental concerns to be considered in its utilization. It has been proven to kill fish when dropped in significant concentrations in waterways. Policy is not to drop retardant within 300 feet either side of a waterway. Any use of retardant in a known environmentally sensitive area should be carefully evaluated prior to requesting retardant usage. Perhaps water drops from a helicopter could serve the same purpose. A retardant drop that falls within the waterway buffer shall be reported to the IC and documented in the fire reporting system.

EFFECTIVENESS **7026.8**
(October 2002)

The optimum retardant drop should be placed from an altitude and airspeed so that all forward speed of the retardant has stopped and allowed to “rain down” onto the target.

The following 5 factors combined affect the retardants ability to effectively provide a retardant barrier. Any one of these factors will decrease the ability of the retardant to provide an effective retardant drop:

1. Retardant quality
2. Fuel type
3. Aircraft Airspeed
4. Altitude
5. Wind Speed and Direction

TACTICS 7026.9
(October 2002)

AIRCRAFT USE 7026.9.1
(October 2002)

Tactical aircraft are most effective when used for rapid initial attack by holding the fire to a small size until ground units can arrive. The number of aircraft initially responding to an incident is normally determined by the standard response plan, which incorporates the current level of fire danger. The IC, with the help of the *Air Tactical Group Supervisor (ATGS)* or air operations director, will evaluate the need for continuing, increasing, decreasing or stopping use of aircraft at an incident. When aircraft are ineffective or not needed, they will be released immediately.

Reference: 8341.1 Aviation Handbook

Considerations for the use of tactical aircraft include:

- ❑ Call for retardant early, if it is needed, and follow-up with aggressive ground suppression action.
- ❑ Consider:
  - Drop effectiveness
  - Safety of ground personnel
  - Type of fuels
  - Wind conditions
  - Fire behavior
  - The ability to follow up with ground action
  - Influence of terrain on drop effectiveness
  - Visibility of target from the aircraft
  - Use of helicopters if conditions or terrain make operation of fixed wing air tanker ineffective.
- ❑ Suspend drops when no longer effective or essential.
- ❑ Notify pilot if there are physical hazards in drop pattern, such as utility lines, towers, trees, other aircraft, etc.

DEFINING TARGETS 7026.9.2
(October 2002)

STANDARD TARGET DESCRIPTION (S.T.D.) 7026.9.2.1
(October 2002)

The systematic technique of communicating drop instructions by radio from ATGS to the tanker or copter pilot, enabling the pilot to locate, identify, and take action on the target in the shortest possible time.

Descriptions include but are not limited to the following:

- Drop description methods
- Use Parts of the fire terminology
- Slope
- Natural features
- Previous drops
- Man made features
- Other equipment
- Cardinal directions (last resort)

Remember, the pilot has the ultimate authority for the safe operation of the aircraft and may refuse the request based on safety.

FIRE ATTACK METHODS **7026.9.2.2**
(October 2002)

Direct – a drop with the main portion of the retardant falling on the flame front. The attack method is often ineffective on fast moving fires or in extreme burning conditions. This method is effective on small fires, spot fires and for hot spotting.

Parallel – a drop that is made parallel to the fire edge in the green and often takes advantage of natural breaks in the fuel. Retardant drops are made close to the fire edge, allowing the fire to burn in to the retardant drop. Ground resources using the direct attack method typically follow up this drop method. This attack method is the most common and most effective drop method used.

Indirect – the use of retardant well ahead of the fire. This attack method is often used with the pre-treatment of fuels in advance of planned firing out operations and is only effective with long-term retardants.

WIND **7026.9.2.3**
(October 2002)

Special caution should be taken when operating in wind conditions of 20 knots, (24 mph) and above. It is the responsibility of the ATGS, pilots, and other responsible persons to consistently assess the risks versus benefits associated with operating in high wind and turbulent conditions.

Reference: 8362.3.1 CDF Aviation Procedures Handbook

AIRCRAFT COMMUNICATIONS **7026.9.2.4**
(October 2002)

Communications between tactical aircraft over a fire and ground forces on the fire is imperative for safety and effectiveness. Clear text radio communications has been proven to be the most effective method of communication. When communicating with an aircraft over a fire, always attempt to do so in simplex mode (direct, car to car). The aircraft will normally be in line of sight and this will ensure an open clear channel.

When aircraft are dispatched they will be provided two frequencies, Air to Ground designated by the requesting ECC and a predetermined Air to Air. Always attempt to contact the aircraft overhead on the assigned Air to Ground frequency. Be patient, an air tactical group supervisor is dealing with multiple frequencies and may have priority traffic on a channel you cannot hear. Repeatedly attempting to make contact in quick succession will only impede safe communications. Make an attempt to establish communications and wait approximately thirty seconds before attempting a second call. Attempt a third time and if no reply is received contact the requesting ECC and request ECC to contact the aircraft and have the aircraft come up on the appropriate frequency. "Channel surfing" changing from one frequency to another in an attempt to find a common frequency only confuses good communication.

Typically an ATGS will be assigned to each fire. In this case the ATGS will coordinate communications between the ground and aircraft over the fire. Occasionally an air tanker or helicopter will arrive on scene prior to the ATGS. In this case establish radio communication with the aircraft on the assigned air to ground frequency. The pilot is instructed to give the IC a size up of what is observed from the air. At this point the IC may instruct the aircraft to make a drop.

See target description for defining targets.

AIRCRAFT HAZARDS **7026.10**
(October 2002)

Aviation resources are very important to initial and extended attack operations. However, there are some limiting factors that effect or restrict the use of aircraft.

Note: The greatest hazards to aircraft over a fire are POWERLINES.

The IC should confirm that aircraft are aware of powerlines in the area.

Other hazards include towers, cables and non-incident related aircraft. If ground personnel identify any of these hazards on the fire, this information should be communicated to the ATGS.

GROUND HAZARDS **7026.10.1**
(October 2002)

1. Retardant drops from airtankers can be dangerous. A low drop has sufficient velocity and mass to not only knock you off your feet but can also throw you a considerable distance.
2. While being hit directly by a load of retardant is at best a sloppy sticky mess, generally no serious bodily injuries will be caused by the retardant, if you take the proper precautions. The major cause of bodily injury resulting from a low drop is being thrown against rocks, trees, etc., or being struck by flying debris picked up by the retardant.
3. Air tanker pilots are constantly cautioned about the dangers to ground personnel resulting from low drops. Report immediately any injuries/damage caused by a low drop. Obtain information on aircraft type and assigned tanker number.
4. If you are standing or running and are hit by main force of the load from a low drop, you can expect to be thrown and bounced around rather violently.
5. If you are prone and are hit by a low drop the risk of injury is reduced considerably over the injuries you might receive were you standing or running.
6. If you are hit by a low drop, don't add to the flying debris – hold onto the tools or other equipment you might be carrying. Those flying tools or equipment could cause injury to you or someone on your crew.
7. If radio communications are not established, remember "dry run." An air tanker making a high pass along the fire line without dropping indicates a retardant drop will be coming in one to three minutes. All personnel under a "dry run" should move from the drop area until after the drop is completed.

Should you find yourself in the direct path of an airtanker drop:

1. Shout "Airdrop". Upon approach of airtanker.
2. Secure wildland safety uniform. Full safety uniform
   - Chin strap on tight
   - Goggles down
   - Shroud in place
3. Lay on ground. Face down
   - Head toward direction of drop.
   - Away from hazards
   - Trees
   - Rocks
   - Powerlines

4. Hold helmet on tightly with one hand.
5. Hold hand tool firmly to one side. Tool blade away from body at arms length.
6. Feet spread, toes extended outward. Better stability.
7. Remain in safety position, until all retardant has settled on ground.

NOTE: Stress fact that this is a "last resort" measure and if at all possible, firefighter should move out of drop zone prior to a drop. Drops will not be made if a pilot identifies personnel are located within the drop zone.

RETARDANT DRIFTS AND OVER- SPRAYS 7026.11
(October 2002)

CDF personnel will take the following action when retardant drifts, over-sprays, and in some cases planned drops fall upon structures or improvements.

1. If the retardant lands on a street or highway, immediately request law enforcement to close the roadway until clean-up is completed. If law enforcement is delayed, take immediate action to close the roadway. Do not allow vehicles to drive through retardant.
2. When possible, take action to wash retardant from affected items before drying to prevent further damage.
3. Advise property owner of the staining effect of the retardant and attempt to mitigate the problem.
4. If possible, gather information, photos, and property descriptions. Complete Standard Form 268, Accident, Other Than a Motor Vehicle.
5. If the property owner requests a Board of Control Claim, provide them with Standard Form 275, How to Obtain Claim Forms from the Board of Control. At no time should an employee of CDF make any statements regarding liability or about when or if a claim will be paid. All questions must be referred to the California Victim Compensation and Government Claims Board.

Reference: 3857 Incident Fiscal Management Handbook

(see next section)

(see HB Table of Contents)

(see Forms or Forms Samples)